X

PROGRESS REPORT

OF

FOREST ADMINISTRATION

IN THE

ANDAMANS

FOR

1886-87.

BY

P. J. CARTER, Esquire,
DEPUTY CONSERVATOR OF FORESTS.

WITH REMARKS BY THE SUPERINTENDENT OF PORT BLAIR

AND

ORDERS BY THE GOVERNMENT OF INDIA.

1888.

No 366 F., dated Calcutta, the 21st March 1888.

From—Sir E. C. Buck, *Secretary to the Government of India,*
To—*The Superintendent of Port Blair and the Nicobars.*

I am directed to communicate the following observations with reference to your letter No. 705, dated the 12th July last, submitting the Progress Report of Forest Administration in the Andamans for the year 1886-87, with your remarks thereon.

2. His Excellency the Governor General in Council observes with pleasure that the Report submitted by Mr. Carter, Deputy Conservator, affords a clear view of the year's administration, enabling the Government of India, for the first time since the establishment of a separate Forest Administration in the Andamans, to follow the operations conducted by the Department, and to understand and gauge the financial results of the year.

3. Mr. Carter takes the right view in stating that, as the Forest Act has not yet been extended to the Andamans, no Forest Reserves can, strictly speaking, be formed; but that, practically, the area not actually cleared for the purposes of the Settlement is reserved.

The constitution and position of the forests protect them against fires and grazing, while the habits of the aborigines, and the control under which convicts are placed, prevent encroachments or other forest offences. The maintenance of a protective staff is consequently not required, but, on the other hand, the very density of the forest growth is unfavourable to the natural reproduction of the most valuable constituent species.

4. The Forest Officer's remarks on natural reproduction, which have been read with the greatest interest, show that a system of *jardinage*, under which Padouk trees alone are extracted, does not secure the reproduction of that species, and the felling operations are, therefore, lowering the present character of the composition of the forests, and thus constitute an inroad on the capital. On the other hand, it is shown that this capital is deteriorating, and that nothing is gained in respect of ensuring the reproduction of the more valuable species by leaving the forests in their present state. In these circumstances, the extraction of the over-mature Padouk trees amounts to changing a dead capital into one bearing interest. Nevertheless, it does not cease to be one of the most important duties of the local Forest Officer to study the subject in every detail, and, if possible, to devise measures by which, whilst reaping the present crop, the natural reproduction of the desired species can be encouraged and to some degree insured. In a minor degree, the same difficulties have to be overcome in some of the mixed teak forests of Burma, and in any mixed forest in which only one or a few species are sufficiently valuable to repay their extraction; but it is clear from Mr. Carter's description that the obstacles to be surmounted are much greater in the Padouk forests of the Andamans. In these circumstances, His Excellency in Council is glad to read of the success of the teak plantation at Goplakabang and of your intention to extend it. This has the full approval of the Government of India. There can be no doubt that teak forests established in the Andamans, in localities selected with special regard to facilities for export, will probably be the most valuable in the world, as no others will be able to compete with them in respect of cost of transport; and I am to suggest that operations in this respect be vigorously pushed on.

5. As regards the artificial reproduction of Padouk, the faults in the experiment undertaken, both as regards the position and narrowness of the lines, have been pointed out, the Government of India thinks correctly, in Mr. Carter's Report. The further introduction of the more valuable species of Burma bamboos, especially of *Dendrocalamus Brandisii*, deserves your attention.

6. The working, outturn, and disposal of timber and other forest produce is clearly exhibited both in the body of the Report and in the statements accompanying.

No girdling operations were undertaken, there having been an ample supply of dead trees on hand. 1,466 Padouk trees and 2,692 trees of other species were felled by Government agency, and yielded 2,568 and 4,605 logs respectively. The amount of timber removed by purchasers is as yet small, and the amount removed for the use of the Settlement need not as yet be separately scrutinized. But the Government of India is pleased to observe that a business-like account has been kept of these items, as well as of the minor forest-produce removed by purchasers or for the use of the Settlement.

I am to suggest that, in future, the small timber mentioned in paragraph 19 of the Report as having been extracted for local demands be not classed as logs, but as posts or poles, the former designation being misleading.

7. The disposal of the small quantities of Andamans timber hitherto thrown into the market is satisfactory, and the net profits realized would seem to permit of a further considerable reduction in the prices if the demand can thereby be materially increased. It is at the same time believed that the cost of transport to Europe can be considerably diminished if timber-carrying ships, of the capacity required, are sent with the annual coal-supply and at once chartered for the double journey. The Secretary of State will be addressed on this subject when the time for doing so arrives. At present you have, it is understood, made arrangements for chartering a suitable ship to carry the timber collected at Shoal Bay, and it will depend on the result of this venture whether, and to what extent, the extraction of Padouk timber from the Andamans is to be increased. It is evident from the Report that, if a material increase in the work is contemplated, the number of elephants must be augmented accordingly, and the introduction of tramways may become advisable.

8. The cash transactions of the year show a surplus of ₹5,580, and a valuable cargo of timber is, moreover, stored at Shoal Bay. No doubt a considerable portion of the direct increase of the year was derived from a contract for the supply of telegraph posts, which has been completed; but it is hoped that the Forest Officer will discover other demands for the produce of the Andamans forests. The surplus on local transactions amounted to ₹7,320.

9. His Excellency in Council is satisfied with the way in which the administration of the Forest Department has been conducted during the year under review, and concurs in your commendation of Mr. Carter's services and practical ability.

PROGRESS REPORT OF FOREST ADMINISTRATION IN THE ANDAMANS FOR 1886-87.

No. 705, dated Port Blair, 12th July 1887.

From—Colonel T. Cadell, V.C., Superintendent, Port Blair and Nicobars,

To—The Secretary to the Government of India.

With reference to your letter No. 1137F., dated 30th December 1886, I have the honour to submit, in original, letter No. 110, dated 6th instant, from the Deputy Conservator of Forests, Port Blair, together with his Annual Report for the year 1886-87.

2. This Report is so clear and concise that it is only necessary for me to make a few remarks on it.

3. The report on teak plantation is so favourable that planting on a small scale may with advantage be continued.

4. A comparison of the figures shown in Chapters IV and V of the Report would have been made with those of previous years, had it not been that the previous Reports are so wanting in clearness that a comparison would have been of little value.

5. The outturn of the year was 1,593 logs less than that of the previous year, but this may be reduced by the 820 logs of padouk at Shoal Bay which have not been included in the outturn of 1886-87. The net decrease of 723 logs is presumably owing to sickness among the elephants and to the time lost in organizing the work at Shoal Bay.

6. A net surplus of R5,579-14-2 on transactions is brought to account. This is the first time that there has been a surplus since 1882-83, when a surplus of R5,768 was shown. At that time, however, the forest operations were carried on by a Settlement Officer, whose pay was not debited to the Forest Department.

Nearly half the revenue of the year was due to the sale of telegraph posts. The contract with the Telegraph Department is now fulfilled; and as there is no demand for more posts, this source of revenue is dried up.

7. Padouk timber was sold in London for £10 a ton, but the demand does not appear to be lively. Owing to our having been unable to ship the timber from Shoal Bay to Europe, many months must elapse before it can be ascertained what profit may be expected from operations on a larger scale than heretofore.

8. The Deputy Conservator of Forests considers that to do a larger business more means of transport must be procured, either more elephants or a tramway. Mr. Carter considers that the amount of work an elephant can do in these forests has been much overrated, and that the mortality amongst the elephants is probably due to over-work and insufficient food.

9. Mr. Carter has, since his arrival in November last, performed his duties to my entire satisfaction, and has shown zeal, energy, and practical ability in all his proceedings.

No. 110, dated Port Blair, 6th July 1887.

From—P. J. Carter, Esq., Deputy Conservator of Forests, Andamans,

To—The Superintendent, Port Blair and Nicobars.

I have the honour to submit herewith the Report on the Forests of the Andamans for the year 1886-87.

REPORT ON THE FORESTS OF THE ANDAMANS FOR THE YEAR 1886-87.

CHAPTER I.

AREA AND BOUNDARIES.

THE area lost to forest during the year was 791 acres, of which 303 acres are situated in the Northern District and 488 in the Southern. Of the area cleared, 215 acres were mangrove swamp. The area cleared for cultivation was 639 acres, and that for grazing 152 acres. The area previously cleared was 15,180 acres, and the total area cleared now amounts to 15,971 acres, or 25 square miles. The total area of the main islands is 2,000 square miles, and, of these, 1,975 square miles are covered with forest.

2. A small area of 10 acres at Navy Bay has been notified a Reserve. Strictly speaking, this is not a Forest Reserve, as there is no legal provision for constituting Forest Reserves in the Andamans. Practically, however, the whole area clothed with forest may be regarded as a Reserve. Clearings can only be made by the authority of the Local Government; the aborigines do not clear land, and, as they live almost entirely on fish and wild pig, their consumption of forest produce is very small indeed; nor can grazing rights accrue, for the forest growth is so dense that cattle cannot penetrate it. The average yearly clearing for cultivation and grazing has been between 700 and 800 acres; but it is doubtful if this rate of clearing will be maintained in the future.

CHAPTER II.

SURVEYS, WORKING-PLANS, AND ANNUAL PLANS OF OPERATIONS.

3. In this Chapter there is nothing to record.

CHAPTER III.

PROTECTION AND IMPROVEMENT.

Establishment.

4. The cost of establishment during the year was:—

	R
Deputy Conservator	11,210
Office Establishment	1,358
Elephant Jemadar	94
TOTAL	12,662

The elephant jemadar has only been entertained since November. One member of the office establishment, whose pay is R40 per mensem, is employed as a Ranger.

General Protection and Breaches of the Forest Law.

5. No prosecutions have taken place. No protective staff is entertained. It is not probable that many forest offences are committed, as the bulk of the villagers are convicts on ticket-of-leave, who can only absent themselves from their villages by the written permission of the District Officers.

Forest Fires.

6. Forest Fires do not occur; the large fires in the clearings do not spread into the surrounding forest.

Grazing and Fencing.

7. With the exception of the Government elephants, no cattle graze in the forest. The growth is so dense that cattle cannot pass through it.

Natural Reproduction.

8. All efforts to encourage natural reproduction would naturally be directed towards padouk, the most valuable species in the forest; little experience has as yet been gained, and what is known offers little encouragement. The padouk trees in the forest are of large size and great age, so that not less than one-half are hollow and useless. There is no gradation of age-classes, so far as padouk is concerned. The existing trees are probably 300 years old, and for the past three centuries no natural reproduction of padouk has taken place. Other species have taken possession of the blanks which have been caused by fallen trees. These species must have been for the greater part shade-enduring trees previously existing in the undergrowth, and to a less extent seedlings of species with very rapid growth, which were able to get their crowns through the advance growth before it formed a canopy. Only in this way can the prevalence of such shade-avoiding trees as *Bombax* and *Payanelia* be accounted for. The shade-enduring advance growth has in many cases been *Diospyros* and *Murraya exotica*. The system of selection-felling, without special operations to encourage a desired species, must result in a forest consisting of trees capable of enduring dense shade, interspersed with trees (not necessarily shade-enduring) of very rapid growth. To neither of these classes does padouk belong. It cannot endure a dense shade, or it would be found among the undergrowth in the forest. The shade given by it is not dense, for in the young plantation of padouk, although its canopy is complete, the ground is covered with a growth of low grass. It is true that this grass is of a shade-enduring kind, but it is entirely absent from the adjacent plantation, in which teak is the principal species. Nor is padouk of rapid growth when very young. When five years old it is scarcely more than half the height of a teak tree of the same age, although it is very probable that at the age of ten years and afterwards its growth would rival that of teak. The natural reproduction of padouk, therefore, must entail a considerable expenditure in clearing the ground to enable the seedlings to establish themselves, and in weeding out other species until the young padouk is out of danger, probably until the age of ten years.

Artificial Reproduction.

9. *Regular Plantations.*—These were not extended during the year. The plantation at Hoplakabang is doing very well. The teak planted in 1883 is not a failure, as reported last year. Its growth is as vigorous as that of any plantation in Burma, and the mixture with padouk will be a favourable one. There is probably no reason why teak should not flourish in the Andamans; at any rate this small plantation is the *beau idéal* of what a teak plantation should be, and there is probably nothing finer of its kind in the whole of India. It is true that older plantations at Port Blair have not been successful, but this can be accounted for. The plants were put down wide apart, in some cases at a distance of 30 feet; cattle have been allowed free access, and in some cases the neighbouring villagers have been accustomed to tether their cattle to the trees. No undergrowth has been allowed to exist, and naturally the trees have not developed a tall straight bole.

10. *Cultural Operations.*—During the year lines 20 feet wide and 200 feet apart have been cleared of undergrowth over an area of 250 acres, and in the centre of the lines a row of padouk seedlings have been planted. The young plants are doing fairly well, but the success of this experiment is doubtful; it

is feared that the leaf canopy will close above the lines before the padouk plants have developed. The lines, too, are at right angles to each other enclosing spaces 200 feet square, and from the interior of these spaces nothing can be extracted unless it be dragged across the planted lines This work cost R408 for convict labour.

11. At Dani Khari 10,000 plants of the Dani palm were planted out. The cost of planting and maintenance was R360 for convict labour.

12. Bamboos raised from seed obtained from Burma were planted along the roadside near Garacharama. These are growing well, and will probably be of great benefit, as the local bamboos are becoming scarce, and are not so valuable as those now planted, which consist of *Dendrocalamus strictus*, *Cephalostachyum pergracile*, and a few *Dendrocalamus Brandisii*. The cost of this work was R198 for convict labour. At the close of the year they were handed over to the District Officer.

CHAPTER IV.

Yield and Working.

Departmental Operations.

13. No trees were girdled during the year, as trees have been girdled far in excess of the number which can be extracted, and there is a large balance of girdled trees in the forest. The number of trees felled was 4,158, and from them 7,173 logs were obtained. Of these, 1,466 trees and 2,568 logs were padouk, and 866 trees and 1,735 logs were at Shoal Bay. From forest depôts 1,155 logs were issued, and 3,375 logs were delivered to the sale depôt. The balance of logs in the forest and at forest depôts at the commencement of the year was 1,019, and at its close 3,662. Of these 3,662 logs, 915 are lying in the forest at Shoal Bay and 829 at the depôt at Pirij, which has not been classed as a sale depôt, because timber lying there can only be removed by ship. The number of logs dragged from the forest to forest depôts was 5,076.

14. The number of logs at the sale depôt at the commencement of the year was 292. During the year 3,375 logs were received, 230 were sold and sent to Calcutta, 4 logs were sent to the agents in Calcutta for sale, and 3,201 were issued to the districts and saw-mill, leaving a balance of 232 logs in the depôt at the close of the year.

15. Self-supporting contractors delivered 1,023 padouk telegraph posts and 123 padouk planks. The telegraph posts were sold in Calcutta, and the planks sent to the agents in Calcutta for sale.

16. From the Chatham Saw Mill were received and exported—

1,432	Padouk telegraph posts	5,371 cubic feet.
182	„ planks	694 „
107	„ squares	2,511 „
14	Lakuch squares	122 „
65	Mowa and Gangaw sleepers	225 „
	Gurjan planks	4,736 „
3,441	Tea-boxes	2,580 „

and the following was received and sold locally—

Scantling, 1,054 cubic feet.
1,000 shingles.

17. The following logs, &c., were exported:—

Sold at the time of export—

224	Tindu and Gangaw billets	394 cubic feet.
2,330	Padouk telegraph posts	8,570 „
50	„ planks	91 „
14	Lakuch squares	122 „
65	Mowa and Gangaw sleepers	225 „

3,441 Tea-boxes	2,580	cubic feet.
Gurjan planks	3,735	„
Sent to agents for sale—		
107 Padouk squares	2,511	„
132 „ planks	603	„
123 „ „	598	„
100 „ telegraph posts	365	„
Gurjan planks	1,001	„
4 Gurjan spars	326	„

18. The balance at the commencement of the year was—

In London	5,473	cubic feet.
„ Calcutta	14,573	„
	20,046	„
Receipts as in foregoing paragraph	5,404	„
TOTAL	25,450	„

The sales were—

In Calcutta—			
Padouk scantling	650	cubic feet.	
17 „ planks	85	„	
12 „ squares	455	„	
269 sleepers	937	„	
1 Gurjan spar	154	2,281	cubic feet.
In London—			
601 Padouk planks	3,269		
61 „ squares	2,204	5,473	„
	...	7,754	„

Balance at close of year—

In Calcutta	14,054	
„ London	3,572	17,626
TOTAL		25,380

There is a discrepancy of 70 cubic feet in the Agent's accounts, which has not yet been explained.

19. The average size of logs extracted from the forest was only 24 cubic feet. This is accounted for by the fact that some kinds of timber for which there is a large local demand grow only to a small size; this is especially the case with *Podocarpus*, which is largely used for oars.

20. The cost of timber extracted by contractors was R25 per ton for large planks, and R3 per post or R37-8 per ton for telegraph posts.

21. The cost of felling and squaring logs at Shoal Bay was R5 per ton for convict labour, and the cost of dragging and floating was R13 per ton for convict labour.

22. The cost for convict labour near Port Blair was—

	R	
For felling	0·4	per ton.
„ dragging	1·6	„
„ floating	1·7	„
„ sundries	1·1	„
		„
TOTAL	4·8	„

23. The total expenditure, less amounts paid to contractors and for the purchase of elephants, was—

	R
As per cash book	19,927
Value of stores from Commissariat and District	1,874
TOTAL	21,801

or a further R6·8 per ton on the outturn.

24. To arrive at the cost of the labour of an elephant, it may be assumed that an elephant landed in Port Blair costs R2,500, and that the life of an elephant at timber work here averages ten years. Then the capital involved (allowing interest at 5 per cent.) to purchase an elephant and replace it every ten years is $\frac{2,500 \times 1{\cdot}05^{10}}{1{\cdot}05^{10}-1}$=R6,475, and the yearly cost is R324. This does not include expenditure for attendants, food, &c. On these data the cost of dragging is further increased by R8,289 or R2·6 per ton.

25. The total cost therefore of timber delivered has been at Port Blair R14·2 per ton; at Shoal Bay R22·4 per ton.

Removal of Produce by Purchasers.

26. License-holders extracted as follows:—

8,521 cubic feet Gurjan timber.
8,000 poles; estimated outturn on 4 licenses. These have been assumed to contain 0·5 cubic feet each.
27,500 cubic feet of firewood; estimated outturn on 55 licenses.
1,750 cubic feet of wood converted into charcoal; estimated outturn on 7 licenses.
168,000 Bamboos; estimated outturn on 84 licenses at 2,000 per license.
500 Canes; estimated outturn on 5 licenses.
252,000 Rattans; estimated outturn on 168 licenses.
1,424,000 Thatch; estimated outturn on 361 licenses.
Betel-leaves on 5 licenses. No data available to estimate quantity.

Free Grants of Forest Produce.

27. No free grants have been made.

Produce removed under Privilege.

28. Under this head will be included produce removed by District Officers for the use of the Settlement, and firewood removed by free residents and convicts on ticket of leave.

16,205 cubic feet of timber; 1,232 logs removed by District Officers.
16,680 cubic feet; 1,668 posts @ 10 cubic feet each by District Officers.
14,714 cubic feet; 29,428 poles @ 0·5 cubic feet each by District Officers.
416,850 cubic feet of firewood; 5,484 cords and 49¼ maunds by District Officers. The cord is 128 cubic feet, and has been estimated at 76 cubic feet solid contents.
120,000 cubic feet of firewood; estimated consumption of 6,000 people at 20 cubic feet per head.
23,417 cubic feet of wood converted into charcoal by District Officers; estimated amount to produce 7,280 maunds.
168,913 Bamboos by District Officers.
69,814 Canes by District Officers.
150,598 Thatch by District Officers.

The following produce was sold by District Officers:—

	R	a.	p.
Firewood, 440 tons	625	0	0
Charcoal, 32 7/8 „	388	10	0
Timber, 250 „	5,379	9	3

Summary of Produce removed from the Forest.

29. The total amount of produce removed from the forest was as follows:—

126,974 cubic feet of timber.
4,237 „ telegraph posts and planks.
16,680 „ posts.
18,714 „ poles.

564,350 cubic feet of firewood.
25,167 „ converted into charcoal.
336,913 Bamboos.
70,314 Canes.
252,000 Rattans.
1,574,598 Thatch.
Betel leaves on 5 licenses.

In this is not included 33,901 cubic feet of timber delivered to depôt at Shoal Bay, for reasons stated in paragraph 13.

Imports and Exports of Forest Produce.

30. No information can be given, as the Port Officer does not register the quantity of timber shipped.

CHAPTER V.

Financial Results.

31. On transactions which are passed through the accounts the net surplus amounts to R5,579-14-2.

	R	a.	p.
Revenue	31,870	6	10
Expenditure	26,290	8	8
Surplus	5,579	14	2

The transactions which do not pass through the accounts are as follows—

Revenue.

				R	a.	p.
Northern District, 1,260 logs					11,065	3	11
Southern do., 1,188 „					9,901	14	0
Marine Department, 121 „					1,430	9	4
Commissariat do., 2 „					78	3	3
Saw-mill, 1,785 logs	Value			33,384 13 1	16,851	9	1
	Less refund on timber received			16,533 4 0			
			Total		39,327	7	7

Expenditure.

Convict labour	30,133	6	0
Stores	1,873	11	5
Total	32,007	1	5

Leaving a further surplus of R7,320-6-2. The total surplus is, therefore, R12,900-4-4.

32. The principal transactions of the year were—

Two thousand three hundred and eighty telegraph posts sold for R13,265-11-5, after deducting shipping charges and commission, being R5-9-0 per post and R75-14-6 per ton. On those delivered by contractors at R3 per post, the net profit was R2-9-0 per post, or R38-6-6 per ton. Twenty-five were lost in shipping and 100 rejections are lying in Calcutta, which will further reduce the net profit.

Sixty-one padouk squares sold in London, Hamburg, and Havre, the London price being £10 per ton; after deducting charges, the net rate was R56-12-4 per ton.

Six hundred and one padouk planks sold in London for £10 per ton, yielding, after the deduction of charges, R72-10-6 per ton. These were delivered by contractors at R25 per ton, and the net profit was therefore R47-10-6 per ton.

Three thousand four hundred and forty-one tea-boxes sold for R2,264-3-3, or R43-14-0 per ton. These were of Toungbeing, Thitmin, and Simal.

CHAPTER VI.

General Remark.

33. Although it had been urged that a ship carrying 600 to 700 tons of coal should be sent from England under contract to take a cargo of timber back, a ship carrying 1,700 tons of coal was sent without any arrangement as to the timber. Only 670 tons of timber were ready to be loaded, and the master of the ship refused to take these on reasonable terms. No ship suitable to carry the timber could be obtained in Calcutta, and the agents are now arranging for a ship at home at a freight of £2 per ton. Another year will therefore elapse before it can be ascertained whether any considerable trade can be done in Padouk timber from the Andamans.

34. The number of elephants at the commencement of the year was 27 in addition to one calf, and at its close 20 and one calf. Seven elephants died during the year. In December the custom of giving grain rations to the elephants was resumed. For elephants working every day, unless they are sick, grain rations are a necessity and not a luxury. The outturn of timber is entirely dependent on the number of elephants available for dragging. The number now on hand are only just sufficient to drag the logs needed for local consumption; and even to do this, they are over-worked. If therefore it is found that an export trade in Padouk can be done on a larger scale, more capital must be invested in elephants, or in a portable tramway. The latter is probably more advisable, for casualties among the elephants have been numerous during the past two years, and they are here peculiarly liable to a disease of the feet. Two of the present elephants have been thus incapacitated for work for six months, and it seems even doubtful if they will recover.

35. During the year the charge of the Saw-mill on Chatham has again been resumed by the District Officer. The mill has always been a Public Works charge, and its principal work was to convert timber for local public works. The Local Government in ordering the transfer have ruled that all indents for sawing for the Forest Department shall have prompt attention, and it is believed that the present arrangement will work better than the former one.

Form No. 49.

FOREST DEPARTMENT, ANDAMANS.

Area of Reserved Forests.

Division or Range.	Civil District or Territory.	Name of Forest.	Area on 1st April 1886.		Added during the year.	Excluded or transferred to other heads.	Area on 1st March 1887.		No. and date of Notification of addition or transfer.	Remarks.
			Acres.	Equivalent in square miles.	Acres.	Acres.	Acres.	Equivalent in square miles.		
Andamans . . .	Southern District . .	Navy Bay . . .	10	0·015	...	...	10	0·015	No. 25 of 1883-84, dated 24th November 1883.	
		Total . .	10	0·015	...	...	10	0·015		

Form No. 50.

FOREST DEPARTMENT, ANDAMANS.

Prosecutions for breaches of Forest Rules.

Forest Division and Civil District.	Cases pending from 1885-86.	NEW CASES OF THE YEAR.					Total cases.	DISPOSED OF DURING THE YEAR.						Cases pending at close of year.
		Injury to forests by fire.	Unauthorized felling or appropriation of wood and minor forest produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.		Acquittals.		Total.		
								Cases.	Persons.	Cases.	Persons.	Cases.	Persons.	
							Nil.							

Form No. 51.

FOREST DEPARTMENT, ANDAMANS.

Area of Forest Tracts protected from Fire during the dry season, 1887.

Division.	Forest Tracts.	Year in which protection commenced.	Area actually protected.	During dry season of			Cost during the season.	Remarks.
				Area attempted to be protected.	Failures.	Actually protected.		
			Nil.			*Nil.*	*Nil.*	

Form No. 52.

FOREST DEPARTMENT, ANDAMANS.

Area of Plantations.

Division.	Name of Plantation.	On 1st April 1886.		Added during 1886-87.		On 31st March 1887.		Remarks.
		Area.	Cost.	Area.	Cost.	Total Area.	Total Cost.	
		Acres.	₹	Acres.	₹	Acres.	₹	
Andamans	*Regular Plantations.*							
	Navy Bay	10	372	..	...	10	372	
	Goplakabang	33	1,032	...	...	33	1,032	
	Total Regular Plantations	43	1,404	...	...	43	1,404	
	Cultural Operations.	Plants.		Plants.		Plants.		
	Dhunnyleaf Creek	44,870	1,288	10,000	360	54,870	1,648	Area indeterminate, the plants being in a single line along bunds at Dhunnyleaf Creek, Bomlitan, Stewartgunj, & Bajajagda.
	Goplakabang	...	...	...	408	...	408	
	Bamboos on road side	...	...	...	198	...	198	
	Total Cultural Operations	...	1,288	...	966	...	2,254	
	Grand Total	..	2,692	...	966	...	3,658	

Form No. 53.

FOREST DEPARTMENT, ANDAMANS.

Trees felled by Government Agency during the year 1886-87.

SELECTION FELLINGS.

Division.	TREES FELLED. Description.	Number.	Remarks.
Andamans	Padouk	600	
	Pyimma	329	
	Lakúch	77	
	Gangaw	232	
	Taungbeing	537	
	Thingan	56	
	Thitmin	498	
	Marble-wood	7	
	Chuglam	4	
	Mowa	194	
	Koko	155	
	Red Thingan	6	
	Gurjan	275	
	Mangrove	45	
	Simal	64	
	Tindu	98	
	Chai-wood	6	
	Khaya	66	
	Spars (Gurjen)	6	
	Padauk crooks	37	Converted into 5,438 logs.
	Total	3,292	„ „ 1,735 „
			7,173 „
Shoal Bay	Padouk	...	
		866	
	GRAND TOTAL	4,158	

Balance at commencement of the year—			Issued locally	...	1,155
In Forest	292		Sent to sale depôt	...	3,375
„ „ depôts	727		*Balance at close of the year—*		
		1,019	In forest	1,474	...
Outturn of year	...	7,173	„ Shoal Bay	915	...
			„ depôts	453	...
			„ „ Shoal Bay	820	
					3,662
			TOTAL LOGS		8,192
TOTAL LOGS	...	8,192			

Form No. 54.

FOREST DEPARTMENT, ANDAMANS.

Outturn of Timber and Firewood.

Division.	Description of material.	Outturn in Cubic feet.								Remarks.
		Selection fellings.	Clearances.	Thinnings.	Total.	Removed by				
						Government Agency.	Purchasers.	District Officers.	Right-holders.	
Andamans	Timber . . .	126,974	...	...	126,974	102,248	8,521	16,205	...	
	Telegraph posts and planks . .	4,237	...	...	4,237	4,237	...	...	...	
	Posts . . .	16,680	...	...	16,680	...	...	16,680	...	
	Poles . . .	18,714	...	...	18,714	...	4,000	14,714	...	
	Fire-wood . .	147,500	416,850	...	564,350	...	27,500	416,850	120,000	
	Charcoal . . .	1,750	23,417	...	25,167	...	1,750	23,417	...	
	Total .	315,855	440,267	...	756,122	106,485	41,771	487,866	120,000	

Form No. 55.

FOREST DEPARTMENT, ANDAMANS.

Outturn of Minor Forest Produce.

Division.	Description of produce.	PRODUCE REMOVED OR UTILIZED										Remarks.
		By Government Agency.		By purchasers.		By free grants.		By District Officers.		Total.		
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
		No.	₹	No.	₹	No.	₹	No.	₹	No.	₹	
Andamans	Bamboos	...	...	Licenses 78 168,000	84	...	...	168,913	84	336,913	168	
	Canes	...	...	Licenses 5 500	2	...	...	69,814	347	70,314	349	
	Rattans	...	...	Licenses 168 252,000	336	...	...	...	...	252,000	336	
	Thatch	..	...	Licenses 361 1,424,000	181	...	...	150,598	19	1,574,598	200	
	Betel leaves	...	...	Licenses 5	10	...	...	...	...	...	10	
	Total	...	...	1,844,500	613	...	...	389,325	450	2,233,825	1,063	

Form No. 56.

FOREST DEPARTMENT, ANDAMANS.

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally.

Particulars.	No. or Quantity.	Cubic feet.	Total of each head. No. or Quantity.	Total of each head. Cubic feet.
Balance at commencement of the year—				
Haddo Depôt—				
Padouk logs	3			
Pyimma „	17			
Lakúch „	8			
Gangaw „	11			
Taungbeing „	101			
Thingán „	1			
Thitmin „	9			
Marble-wood „	1			
Chuglam „	71			
Mowa „	3			
Koko „	38			
Lál Chíni „	12			
Red Thingán „	3			
Gurjan „	12			
Chonnu „	1			
Mangrove „	1		292	8,886
Calcutta Depôt—				
Padouk scantlings	10,314	1,689		
„ planks	568	2,693		
„ squares	4	300		
„ scantlings	500	62		
Miscellaneous sleepers	750	2,564		
Gurjan spars	10	1,043		
Koko planks	347	1,577		
Chuglam „ pkgs.	20	170		
Marble-wood planks, pkgs.	13	52		
Carried over	12,526	10,150		

Particulars.	No. or Quantity.	Cubic feet.	Total of each head. No. or Quantity.	Total of each head. Cubic feet.
Removed from Depôts by Districts and Saw-mill—				
Padouk logs	540			
Pyimma „	180			
Lakúch „	59			
Gangaw „	152			
Taungbeing „	669			
Thingán „	32			
Thitmin „	444			
Marble-wood „	4			
Chuglam „	86			
Mowa „	181			
Koko „	236			
Lál Chíni „	20			
Red Thingán „	10			
Gurjan „	501			
Chonnu „	1			
Mangrove „	2			
Simal „	65			
Chai „	1			
Lettauk „	1			
Padouk crooks	17		3,201	77,044
Sold from Haddo Depôt—				
Tindu billets	212	381		
Gangaw „	12	13	224	394

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally—(continued).

Particulars.	No. or Quantity.	Cubic feet.	Total of each head. No. or Quantity.	Total of each head. Cubic feet.
Brought forward	12,526	10,150		
In transit at close of last year. Padouk planks	754	3,877		
In transit at close of last year. Gurjan spars	5	546		
			13,285	14,573
London Depôt—				
Padouk planks	601	3,269		
„ squares	61	2,204		
			662	5,473
Exported last year and in transit at close of year—				
Padouk planks	880	1,001		
„ telegraph posts	50	175	930	1,176
Total Balance			15,169	30,108
Received from the forest in Haddo Depôt—				
Padouk logs	602			
Pyimma „	169			
Lakúch „	52			
Gangaw „	171			
Taungbeing „	607			
Thingán „	35			
Thitmin „	443			
Marble-wood „	3			
Chuglam „	16			
Mowa „	179			
Koko „	201			
Lál Chíni „	8			
Red Thingán „	8			
Gurjan „	529			
Lettauk „	1			
Mangrove „	14			
Simal „	78			
Tindu „	212			

Particulars.	No. or Quantity.	Cubic feet.	Total of each head. No. or Quantity.	Total of each head. Cubic feet.
Sold from Calcutta Depôt—				
Padouk scantlings	8,565	650		
„ planks	17	85		
„ squares	12	455		
Miscellaneous sleepers	269	937		
Gurjan spars	1	154		
			8,864	2,281
Sold from London Depôt—				
Padouk planks	601	3,269		
„ squares	61	2,204		
			662	5,473
Received from forests and sold and exported—				
Padouk Telegraph posts	998	3,564	998	3,564
Lost in shipping—				
Padouk Telegraph posts	25	75	25	75
Received from the forests and sold and exported—				
Padouk planks	880	1,001		
„ telegraph posts	50	175		
			930	1,176
Received from Saw-mill and sold and exported—				
Padouk telegraph posts	1,332	5,006		
„ planks	50	91		
Lakúch squares	14	122		
Mowa and Gangaw sleepers	65	225		
Tea-boxes	3,441	2,580		
Gurjan planks, bundles	567	3,735		
			5,469	11,759

Chai logs	10			
Padouk crooks	37			
			3,375	74,453
Received from forests and issued locally—				
Padouk logs	91			
Pyimma „	95			
Lakúch „	48			
Gangaw „	111			
Taungbeing „	289			
Thingán „	47			
Thitmin „	253			
Chuglam „	2			
Mowa „	131			
Red Thingán „	6			
Koko „	24			
Mangrove „	19			
Simal „	21			
Lál Chíni „	1			
Gurjan „	17			
			1,155	27,795
Received from forests and exported—				
Padouk telegraph posts	1,023	3,639		
„ planks	123	598		
			1,146	4,237
Received from Chatham Saw-mill and exported—				
Padouk telegraph posts	1,432	5,371		
„ planks	182	694		
„ squares	107	2,511		
Lakúch „	14	122		
Mowa and Gangaw sleepers	65	225		
Gurjan planks, bundles	725	4,736		
Taungbeing, Simal and Thitmin tea-boxes	3,441	2,580		
			5,966	16,239
Received from Chatham Saw-mill and sold locally—				
Scantlings, I class	...	594		
„ II „	...	17		
„ III „	...	96	...	
Carried over	...	707	...	...

Received from Saw-mill and sent to Calcutta Depôt—				
Padouk squares	107	2,511		
„ planks	132	603		
„ Telegraph posts	100	365		
Gurjan planks, bundles	158	1,001		
			497	4,480
Issued as samples—				
Gangaw billets	6	7	6	7
Received from forests and sent to Calcutta Depôt—				
Padouk planks	123	598		
			123	598
Issued locally to Districts—				
Padouk logs	91			
Pyimma „	95			
Lakúch „	48			
Gangaw „	111			
Taungbeing „	289			
Thingán „	47			
Thitmin „	253			
Chuglam „	2			
Mowa „	131			
Red Thingán „	6			
Koko „	24			
Mangrove „	19			
Simal „	21			
Lal Chini „	1			
Gurjan „	17			
			1,155	27,795
Received from Saw-mill and sold locally—				
Scantlings, I class	...	594		
„ II „	...	17		
„ III „	...	96		
„ IV „	...	304		
„ V „	...	43		
Shingles	1,000	...		
			1,000	1,054
	...	...	...	...

Account of Timber and other Produce cut or collected by Government Agency and brought to Sale Depôts or sold locally—(continued).

Particulars.	No. or Quantity.	Cubic feet.	Total of each head. No. or Quantity.	Total of each head. Cubic feet.
Brought forward		707	...	...
Scantlings, IV class	...	304		
„ V „	...	43		
Shingles	1,000	...		
			1,000	1,054
Received from Calcutta Depôt—				
Padouk planks	255	1,201		
„ squares	107	2,511		
„ telegraph posts	100	365		
Gurjan spars	4	326		
„ planks, bundles	158	1,001		
			624	5,404
Transferred from Calcutta to London Depôt—				
Padouk planks	525	2,517		
„ squares	41	1,055		
			566	3,572
Discrepancies in Calcutta stock account—				
Padouk scantlings	5	...		
Miscellaneous sleepers	134	515		
			139	515

Particulars.	No. or Quantity.	Cubic feet.	Total of each head. No. or Quantity.	Total of each head. Cubic feet.
Transferred from Haddo Depôt to Calcutta Depôt—				
Gurjan spars	4	326	4	326
Transferred from Calcutta to London Depôt—				
Padouk squares	41	1,055		
„ planks	525	2,517		
			566	3,572
Balance at close of year—				
London Depôt—				
Padouk squares	41	1,055		
„ planks	525	2,517		
			566	3,572
Calcutta Depôt—				
Padouk scantlings	1,754	1,039		
„ „	500	62		
„ planks	971	4,621		
„ squares	57	1,264		
„ telegraph posts	100	365		
Koko planks	347	1,577		
Chuglam planks, pkgs.	20	170		
Marble-wood „ „	13	52		
Gurjan „ bundles	158	1,001		
„ spars	18	1,761		
Miscellaneous sleepers	615	2,142		
			4,553	14,054

Form No. 57.

FOREST DEPARTMENT, ANDAMANS.

Abstract showing the value of live stock.

Description.	On hand at commencement of the year.		On hand at close of the year.		Difference in Value.		Remarks.
	No.	Value.	No.	Value	In favour of the year.	Against the year.	
		R		R			
Elephants	27	67,500	20	50,000	...	17,500	

Form No. 57—(continued).

FOREST DEPARTMENT, ANDAMANS.

Abstract showing the value of timber and other produce at Sale Depôt's.

Description of timber and other produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in Value.		Remarks.
	No.	C. Ft.	Value.	No.	C. Ft.	Value.	In favour of the year.	Against the year.	
			R			R	R	R	
Local Depôt—									
Logs	292	8,886	6,220	232	5,568	2,784	...	3,436	
London Depôt—									
Squares	61	2,204	6,612	41	1,055	1,055	...	5,557	
Planks	601	3,269	15,204	525	2,517	2,517	...	12,687	
Calcutta Depôt—									
Scantlings	10,314	1,689	1,001	1,754	1,039	416	...	585	
Planks	568	2,693	8,079	971	4,621	4,621	...	3,458	
Squares	4	300	300	57	1,264	1,264	964	...	
Sleepers	750	2,564	369	615	2,142	...	...	369	
Spars	10	1,043	1,705	18	1,761	2,000	295	...	
Koko planks	347	1,577	630	347	1,577	630	...	...	
Chuglam planks, pkgs.	20	170	68	20	170	68	...	...	
Marble-wood „	13	52	20	13	52	20	...	...	
Scantlings	500	62	24	500	62	24	...	...	
Gurjan planks	...	...	...	158	1,001	300	300	...	
In Transit—									
Planks	754	3,377	11,631	...	...	...	...	11,631	
Do.	880	1,001	1,401	...	...	...	...	1,401	
Telegraph posts	50	175	399	100	365	...	...	399	
Spars	5	546	1,234	...	...	...	...	1,234	
Total	15,169	30,108	54,897	5,351	23,194	15,699	...	39,198	

Form No. 58

FOREST DEPARTMENT, ANDAMANS.

Summary of Revenue.

Budget Heads.	Total.
Receipts.	₹ a. p.
I.—Timber and other produce removed from the forests by Government agency:—	
a. Timber	30,751 1 7
b. Firewood and Charcoal	...
c. Bamboos	...
d. Sandal-wood	...
e. Grass and other Minor produce	...
II.—Timber and other produce removed from the forests by consumers or purchasers:—	
a. Timber	204 9 7
b. Firewood and Charcoal	56 11 6
c. Bamboos	84 0 0
d. Grazing and Fodder Grass	...
e. Other Minor produce	529 8 0
III.—Confiscated drift and waif wood	...
IV.—Revenue from forests not managed by Government:—	
a. Duty on Foreign Timber and other Forest produce.	...
b. Revenue from Shared and Private forests	...
V.—Miscellaneous:—	
a. Fines and Forfeitures	...
b. Refunds	25 12 0
c. Other sources	218 12 2
Total Receipts	31,870 6 10

Form No. 58—(concluded).

FOREST DEPARTMENT, ANDAMANS.

Summary of Expenditure.

Budget Heads.	Total.
	₹ a. p.
A.—Conservancy and Works.	
I.—Timber and other produce removed from the forests by Government agency:—	
a. Timber	5,553 12 5
b. Firewood and Charcoal	...
c. Bamboos	...
d. Sandal-wood	...
e. Grass and other Minor produce	...
	...
II.—Timber and other produce removed from the forests by consumers or purchasers.	
III.—Confiscated, drift and waif wood	...
IV.—Revenue from forests not managed by Government—	
a. Duty on Foreign Timber and other forest produce	...
b. Revenue from Shared and Private forests	...
V.—Rent of leased forests, and payments to shareholders in forests managed by Government.	...
VI.—Live Stock, Stores, Tools and Plant:—	
a. Purchase of Cattle	1,811 4 4
b. Feed and keep of Cattle	138 5 10
c. Stores, Tools and Plant	4,836 8 5
VII.—Communications and Buildings:—	
a. Roads and Bridges	...
b. Buildings	...
c. Other Works	...
VIII.—Demarcation, improvement and extension of forests:—	
a. Demarcation	...
b. Compensation for Land and Rights	...
c. Surveys and Working-Plans	...
d. Plantations	...
e. Protection from Fire	...
f. Other Works	...
IX.—Miscellaneous:—	
a. Refunds	...
b. Law charges	...
c. Other charges	20 0 0
Total, A.—Conservancy and Works	12,359 15 0

Form No. 58.

FOREST DEPARTMENT, ANDAMANS.

Summary of Expenditure—(concluded).

Budget Heads.	Total.
B.—Establishments.	*R a. p.*
Brought forward, Total A, Conservancy and Works	12,359 15 0
I.—Salaries :—	
a. Conservators	...
b Superior Officers	11,210 0 0
. Subordinate Forest and Depôt Establishments	...
d. Office Establishments	1,358 7 8
e. Deputation and Special Allowances	...
II.—Travelling Allowances :—	
a. Conservators	...
b. Superior Officers	1,280 0 0
c. Subordinate Forest and Depôt Establishments	...
d. Office Establishments	30 0 0
III.—Contingencies :—	
a. Stationery	...
b. Carriage of Tents and Records	...
c. Rents, Rates and Taxes	...
d. Pay of Police Guards	...
e. Official Postage	20 8 0
f. Sundries	31 10 0
Total B.—Establishments .	13,930 9 8
GRAND TOTAL OF EXPENDITURE .	26,290 8 8

Form No. 59.

FOREST DEPARTMENT, ANDAMANS

Account Current for the year 1886-87.

Dr. **Cr.**

	₹	a.	p.	₹	a.	p.		₹	a.	p.	₹	a.	p.
To Cash balance	76	4	0				By Expenditure as per Annual Summary, Form No. 58	26,290	8	8			
											26,290	8	8
„ Revenue as per Annual Summary, Form No. 58	31,870	6	10				„ Remittance to Treasuries	31,870	6	10			
											31,870	6	10
„ Drawn from Treasury	22,230	0	10										
				54,176	11	8	„ Cash balance	8	0	0	8	0	0
„ Inter-Departmental Transfers	3,992	3	10	3,992	3	10					58,168	15	6
				58,168	15	6							
Commissariat	1,713	11	5										
Store from District	160	0	0				Convict Labour — a I. a	29,167	6	0			
Convict labour	30,133	6	0				„	190	4	0			
Revenue from Timber supplied to Districts and Saw-mill	39,327	7	7				a VI b	1,683	7	5			
							a VIII d	966	0	0			

Form No. 60.

FOREST DEPARTMENT ANDAMANS.

Revenue Received and Outstandings on account of Revenue during 1886-87.

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realised during year.	Balance due to the Department at end of year.	Remarks.
		R. a. p.	*R a. p.*	*R a. p.*	*R a. p.*	*R a. p.*	
Andamans	I. *a* Padouk planks 648 601	7,465 4 5	4,716 9 8	12,181 14 1	12,181 14 1		
	„ squares 123 61	2,168 12 9	2,501 7 11	4,670 4 8	4,670 4 8		
	„ scantlings 1,362 {2,895 / 930} 3,825	166 6 9	2,391 9 9	2,558 0 6	2,558 0 6		
	„ telegraph posts 2,380	...	13,265 11 5	13,265 11 5	13,265 11 5		
	„ squares and planks, T. M. & Co.	636 3 6	...	636 3 6	636 3 6		
	Gurjan spars 1	233 11 0	...	233 11 0	233 11 0		
	„ planks	...	1,476 11 0	1,476 11 0	1,101 11 0	375 0 0	
	Canoe logs	88 0 0	...	88 0 0	88 0 0		
	Tea-boxes 3,441	...	2,264 3 3	2,264 3 3	2,264 3 3		
	Tindu billets 212	...	53 0 0	53 0 0	...	53 0 0	
	Lakúch squares 14	...	36 0 0	36 0 0	...	36 0 0	
	Gangaw billets 12	...	3 0 0	3 0 0	...	3 0 0	
	Sleepers 65	...	67 8 0	67 8 0	...	67 8 0	Estimated value only.
	Scantlings 5,670						
	Planks 17						
	Squares and Sleepers {sqrs. 8 / sleepers 269} 277		1,540 0 0	1,540 0 0	...	1,540 0 0	
	Spars 1						
	Local sales	218 13 6	582 5 10	801 3 4	797 3 4	4 0 0	
	Emmet and Chambers	3,000 0 0	...	3,000 0 0	375 2 4	2,624 13 8	
	II. *a* Timber	...	204 9 7	204 9 7	204 9 7		
	„ *b* Firewood and charcoal	...	56 11 6	56 11 6	56 11 6		
	„ *c* Bamboos	...	84 0 0	84 0 0	84 0 0		
	„ *e* Other Minor produce	...	529 8 0	529 8 0	529 8 0		
	V. *b* Refunds	...	25 12 0	25 12 0	25 12 0		
	„ *c* Other sources	16 0 7	202 11 7	218 12 2	218 12 2		
		13,993 4 6	30,001 7 6	43,994 12 0	39,291 6 4	4,703 5 8	
	Charges on Revenue of 1885-86	1,784 12 1		1,784 12 1	1,784 12 1		
	Balance	12,208 8 5		42,209 15 11	37,506 10 3		
	Unremitted Revenue of 1885-86	7,592 11 1		7,592 11 1	...	7,592 11 1	
	„ „ „ 1886-87	...		...	5,636 3 5	5,636 3 5	
	Total	19,801 3 6	30,001 7 6	49,802 11 0	31,870 6 10	17,932 4 2	

Form No. 61.

FOREST DEPARTMENT, ANDAMANS.

Outstandings and Liabilities on account of Contractors and Disbursers.

Division.	Department Debtor.			Department Creditor.			Balance due.		Remarks.
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).	
	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	R a. p.	
Messrs. Gillanders, Arbuthnot & Co.—									
Balance of Revenue, 1885-86	.....	.....	.....	7,592 11 1	.....	.....	.....	.....	
„ 1886-87	.....	.....	.....	.....	5,636 3 5	.....	.....	.....	
Charges on timber in stock	.....	4,114 3 5	.....	.....	.....	.....	.....	.....	
Charges on Exhibition	.....	5,133 10 1	.....	.....	.....	.....	.....	.....	
Cash in hand	.....	.....	9,247 13 6	.....	.....	13,228 14 6	3,981 1 0		
Total	.....	9,247 13 6	9,247 13 6	7,592 11 1	5,636 3 5	13,228 14 6	3,981 1 0		

Form No. 62.

FOREST DEPARTMENT, ANDAMANS.

Financial results of the year 1886-87.

Division.	Timber and other Produce removed from the forests by Government Agency.		Other revenue.		Formation, protection and improvement of forests.	Total.		Remarks.
	Receipts.	Charges.	Receipts.	Charges.	Charges.	Receipts.	Charges.	
	R	R	R	R	R	R	R	
	30,751	26,291	1,119	.....	.....	31,870	26,291	
	39,327	31,041	.....	.....	966	39,327	32,007	
Total .	70,078	57,332	1,119	.....	966	71,197	58,298	

Government of India Central Printing Office—No. 150 R. & A.—19-10-87.—230.